

## A few words on UMD menus...

In this chapter we will take a brief look at what makes an UMD menu. This chapter will most likely be the most incomplete chapter in this guide as I don't spend a lot of time with menus. UMD menus are a too big subject to cover in a single chapter anyhow. However I will try to show you where you can edit and change UMD menus, after that it will be up to yourself to start experimenting. Let me start by making a statement that likely will set the tone for the rest of this chapter:

### I HATE UMD MENUS !!

- Making UMD menus is a **lot** of work
- Making UMD menus is time consuming
- Making UMD menus is frustrating
- Making UMD menus can be demotivating
- Making UMD menus requires a lot of patience
- Making UMD menus requires certain skills in the graphical area
- Making UMD menus is **not** recommended for perfectionists

However, when done well, like the UMD menus created by my fellow encoder **byte. me**, they can be extremely cool! But then again, to even quote **byte.me**: "UMD menus are a bitch!"

If you look at my entire body of encoding work you can see that from the tenth or eleventh movie I have encoded (somewhere in March 2009) I have been using the same menu ever since. After initially experimenting with a few different menus I settled on a very simple menu that was easy and fast to reproduce for other movies. The one thing that all my movies would have in common would be English subtitles, so I settled for a menu that only has two buttons: **Play** and **English Subtitles on/off**. Basically that was all I needed; any other options and languages would still be selectable via the XMB menu. My main concern was that the main subtitle could be switched on and off from the menu. Since I also don't bother with trailers or other extras (which take up space that I can otherwise dedicate to main movie quality) this menu fits my purpose.

Now, that simple menu would be no fun for this guide, so I have decided, for your learning pleasure, to take apart the first menu I ever made, the one that can be seen on my original encode of... guess... yes... Hoodwinked! The **Hoodwinked** menu is an edited version of the **Vantage Point** menu. Why is this you might ask? Well... UMD menus cannot be built from scratch. The tools needed for that were never ~~leaked~~ made available.

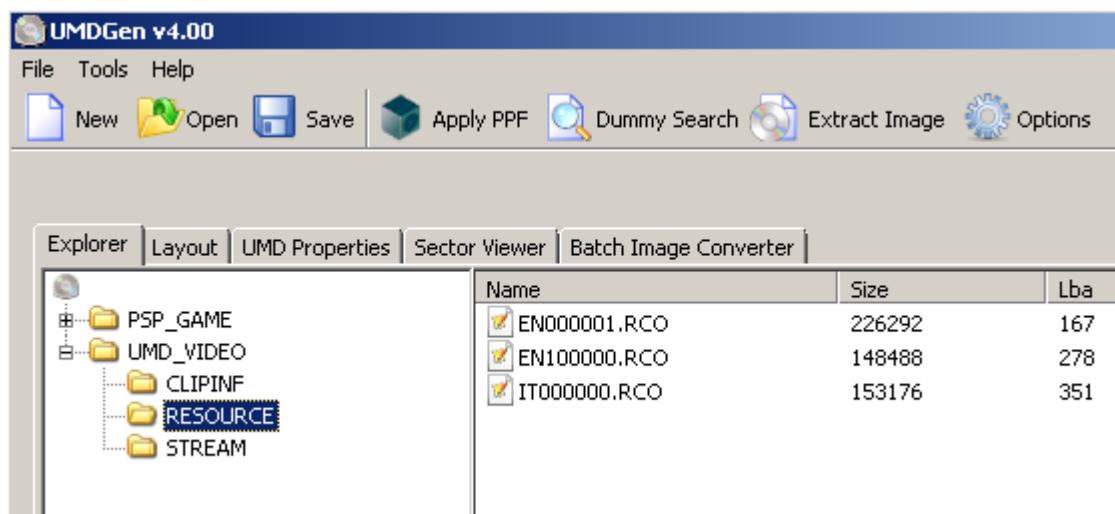
So the first step in creating an UMD menu for your own encoded movie is to find a menu that fits your purpose. And with finding I mean sifting through your UMD collection and checking all Video UMD menus for characteristics that will fit your purpose, i.e. the correct number of audio tracks, the correct number of subtitle tracks, the correct amount of planned extras, chapter selection or not, etc etc etc. Basically it is a lot of work, and if you are a perfectionist like me you likely just won't find a suitable menu at all.

Anyway, for this example we found our menu: **Vantage Point**. During the rest of this chapter I will take apart the Hoodwinked menu and compare it to the original Vantage Point menu, so you can see what I did and where I changed things.

Tools needed in the first part of this chapter are:

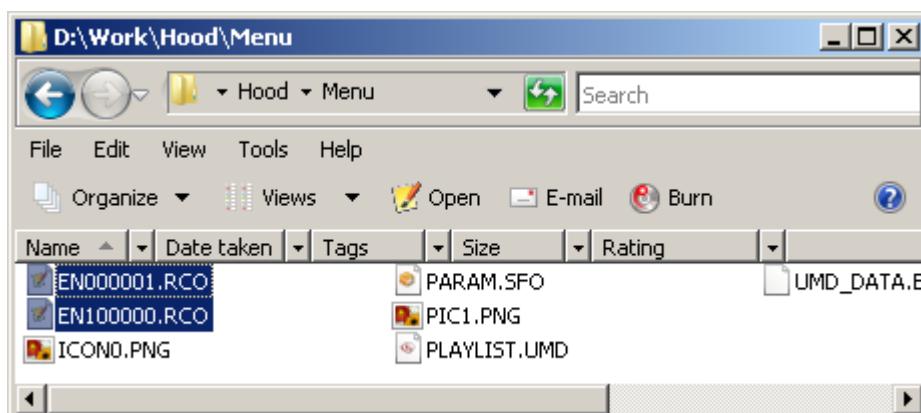
- UMDGen
- RCO Edit
- A picture/photo editor (I prefer PhotoShop for this)

First let us start UMDGen and obtain the files that hold the menu. In below screenshot I have loaded my original Hoodwinked. The files we need are in the **RESOURCE** folder.

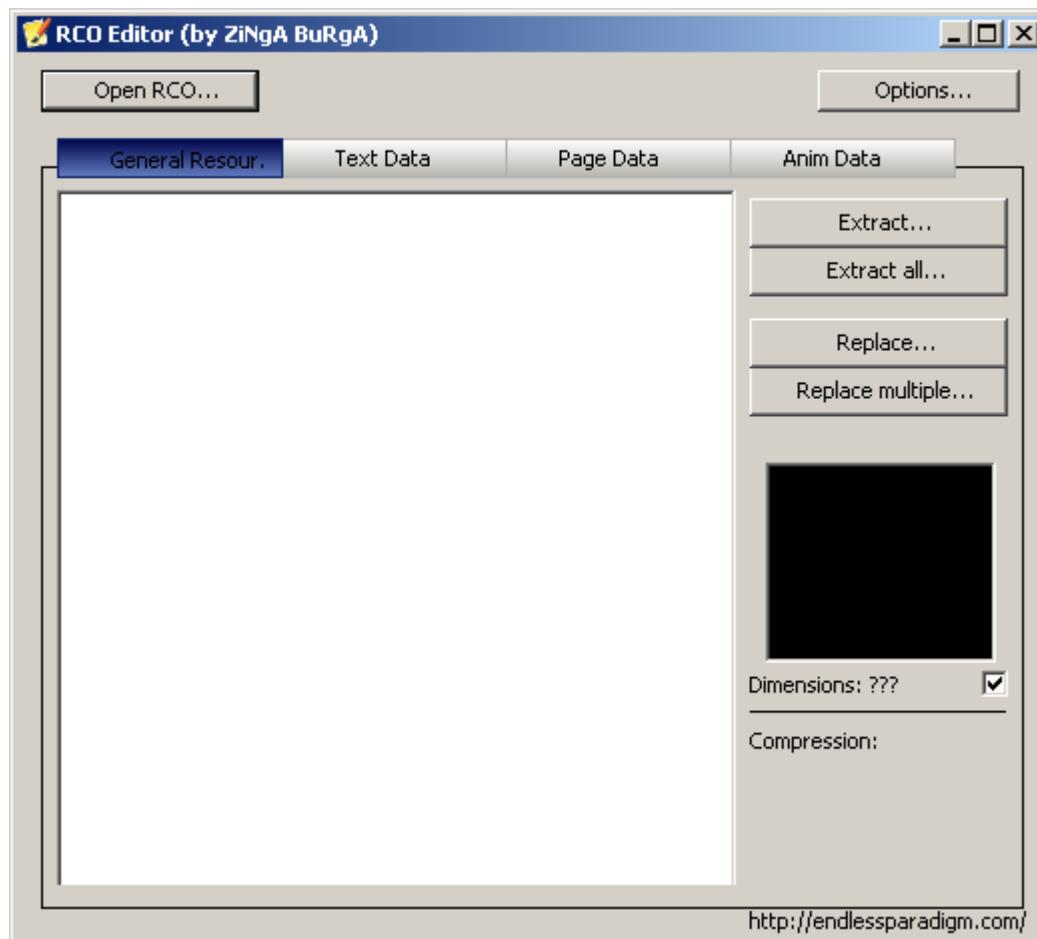


The menu as presented on the UMD is contained in the two resource files, **EN000001.RCO** and **EN100000.RCO**. Note: since I used the Vantage Point menu you will of course find the exact same files in the Vantage Point ISO. Some ISOs might have additional files in this folder, however in most cases you will only need the RCO files that start with **EN**, which stands for English. The third file you will find in above example is for an Italian menu. It is safe to ignore it.

Extract both **EN?????.RCO** files. I won't explain here anymore how to do this; you can find information on this in other chapters. I save the files in the **Menu** folder in my work folder.



We can open the RCO files with **RCO Editor**



Click the **Open RCO...** button and locate and select the RCO file that you saved. To start with open **EN100000.RCO** first as this contains the most interesting objects. When you selected it click **Open** to load it.

The RCO file will load into the editor. At the top you can see the file-name of the file that loaded.

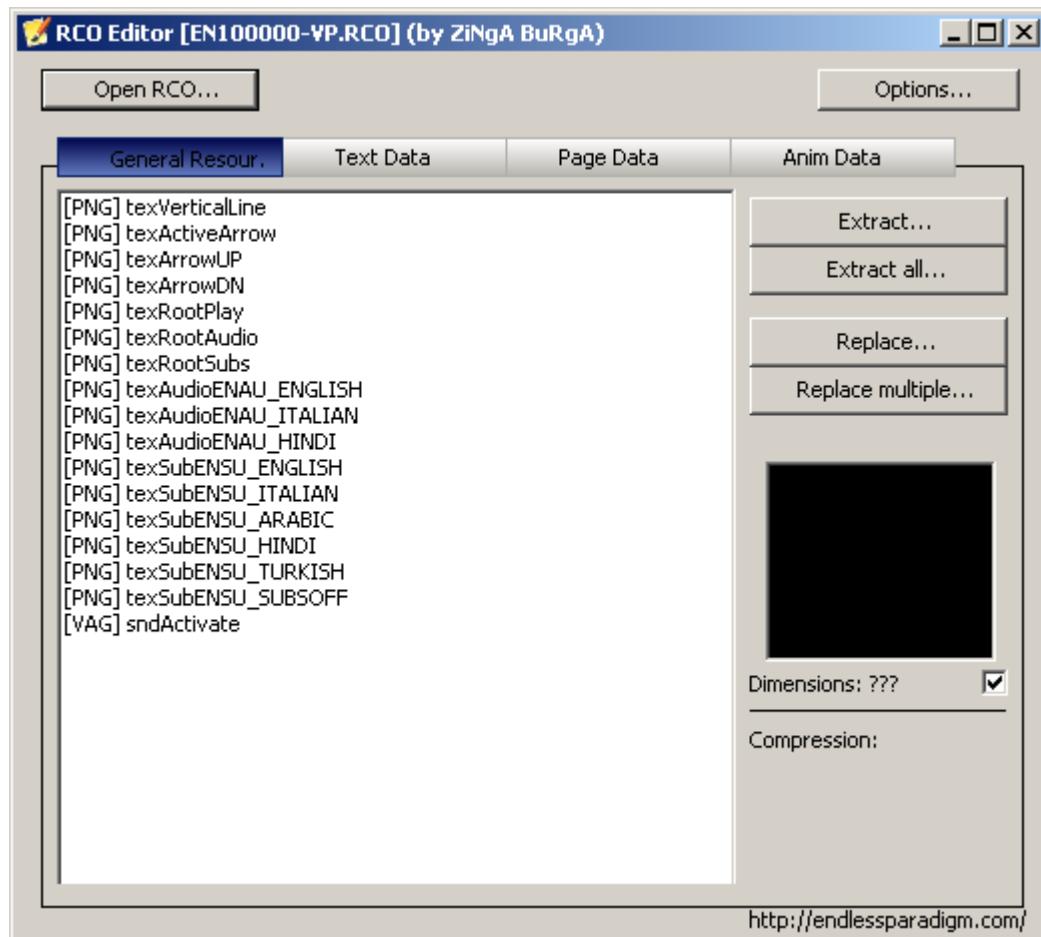
Please **note**, as I will be comparing my Hoodwinked RCO files to the Vantage Point RCO files I have renamed the files, purely for clarity of this guide. You should **\*not\*** rename the RCO files, as they will need to keep the same filename.

However in this guide you might see these files loaded:

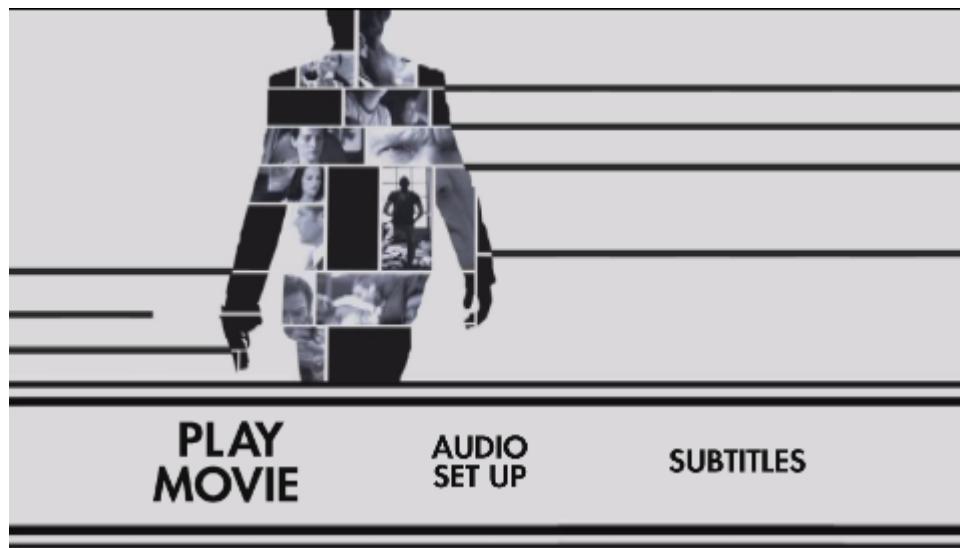
- [RCO Editor [EN100000-HW.RCO]]** I've renamed the **Hoodwinked** files to include **-HW**
- [RCO Editor [EN100000-VP.RCO]]** I've renamed the **Vantage Point** files to include **-VP**

Please always keep an eye on the window title so you know which file I'm talking about.

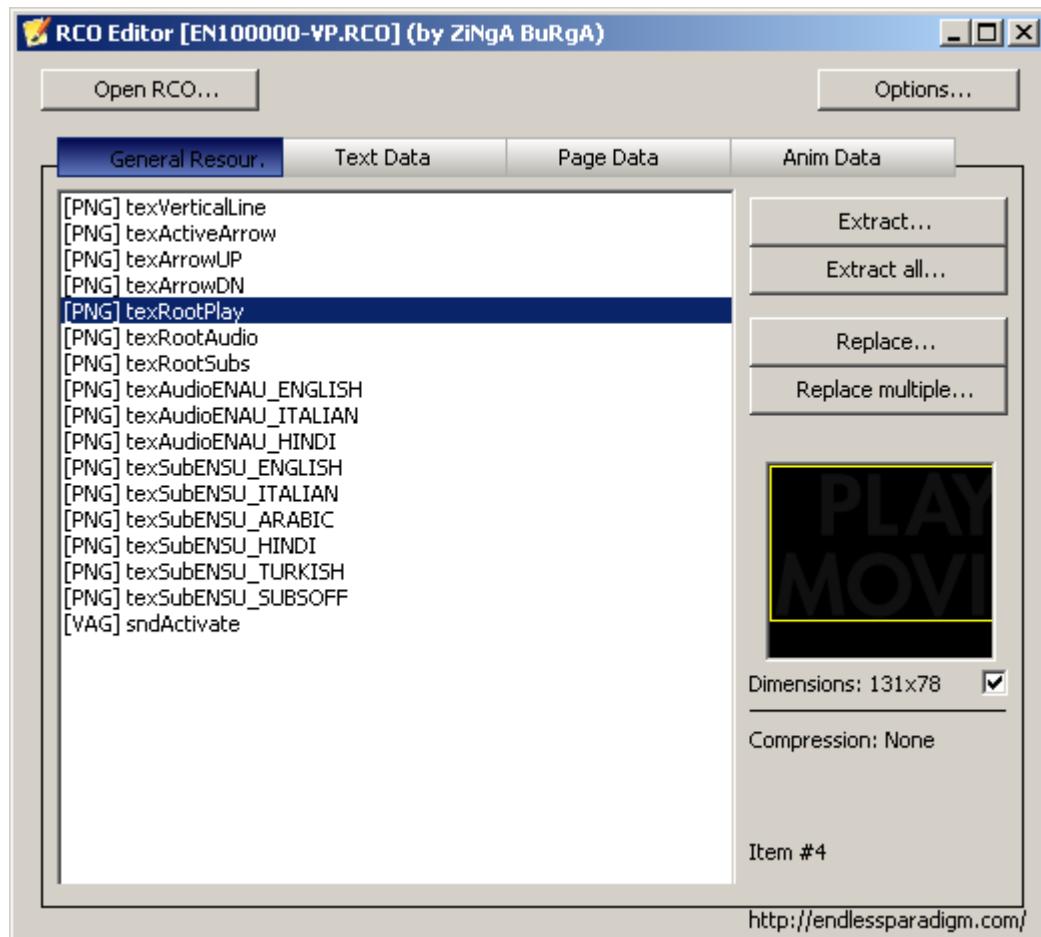
Now let us start by having a look at the original Vantage Point EN100000.RCO file:



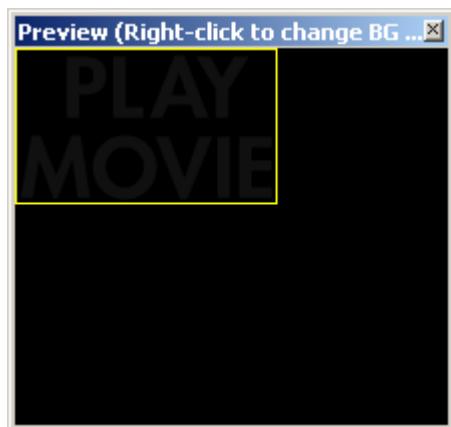
There are four tabs. The first one, **General Resource**, contains all the picture files that you can see in the menu. Take a look at what the Vantage Point menu looks like on the PSP:



The top half of the screen is a small movie, I'll get back to that later. The bottom of the screen is the actual menu. You see that there are three main menu options. These can all be found in the RCO file:



You see by selecting **[PNG] texRootPlay** the image that is used in the menu of the movie. By double clicking on the image in RCO Editor a new window will open where you can see the complete picture



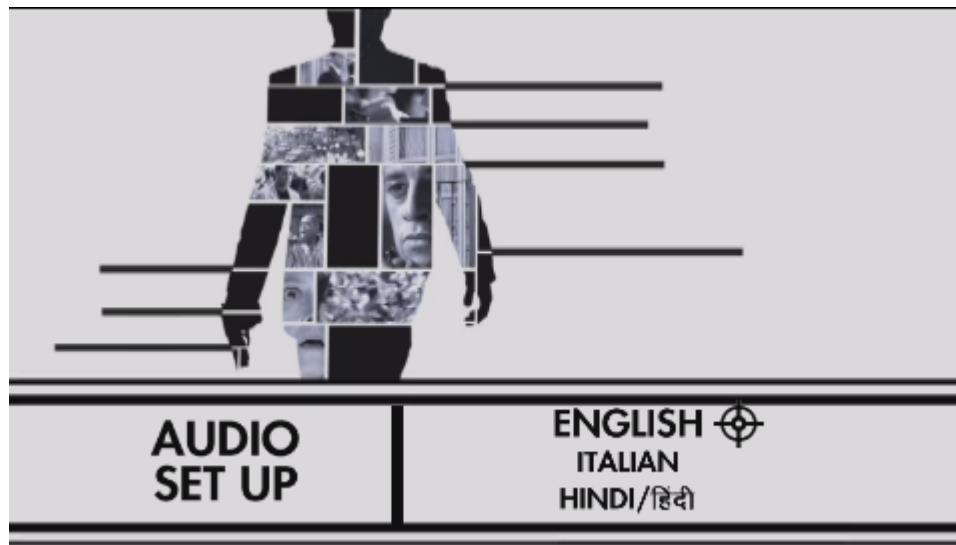
By selecting **[PNG] texRootAudio** you find the main menu Audio image



You can click on all images to see what they represent. For example [PNG] **texActiveArrow** contains the pointer or cursor that you use in the menu to select certain options.



You can see this pointer when you select Audio or Subtitles in the main menu:



All of these images can be extracted, edited, and replaced so you can give your menu your own style.

Look for example in what way I changed the Vantage Point main menu graphics to get to the main menu I'm using in Hoodwinked!



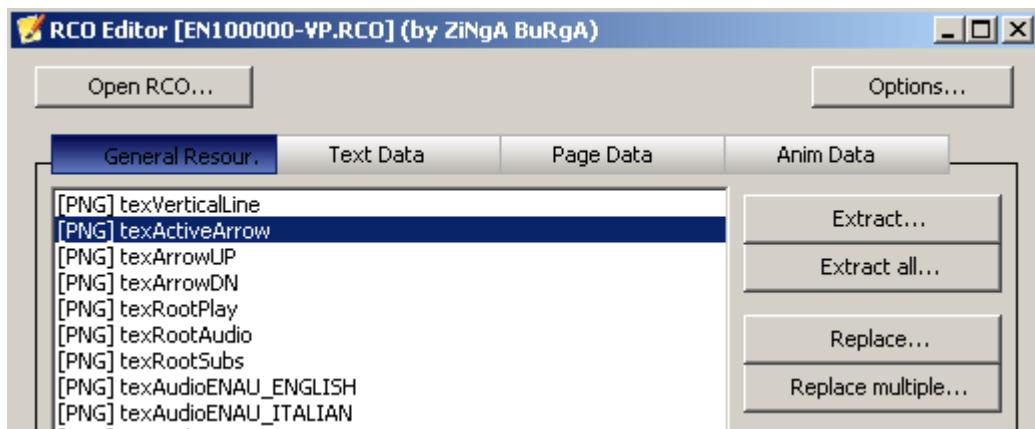
You can see I replaced the text by a different font, and changed the subtitle section to INFO, as by then I didn't have subtitles yet. On the AUDIO menu you can see that I changed the pointer as well:



I changed the pointer to a Q... hmm. Another thing that you can see here is that Hoodwinked has only two language tracks while Vantage Point had three. I replaced the third language by -----, It is still selectable, but since there are only two audio tracks in my MPS file it doesn't really matter. It won't affect anything. If the third audio track here is selected it will play the audio track that was previously selected, so either English or Commentary. I have chosen to put a line there, you could also chose to clear the field completely and don't show anything, however in the case of multiple audio or subtitle tracks the actual choices, here English and Commentary, might scroll off the screen and if you clear the tracks you are not using you won't see anything. The perfectionist in me couldn't have that... ;)

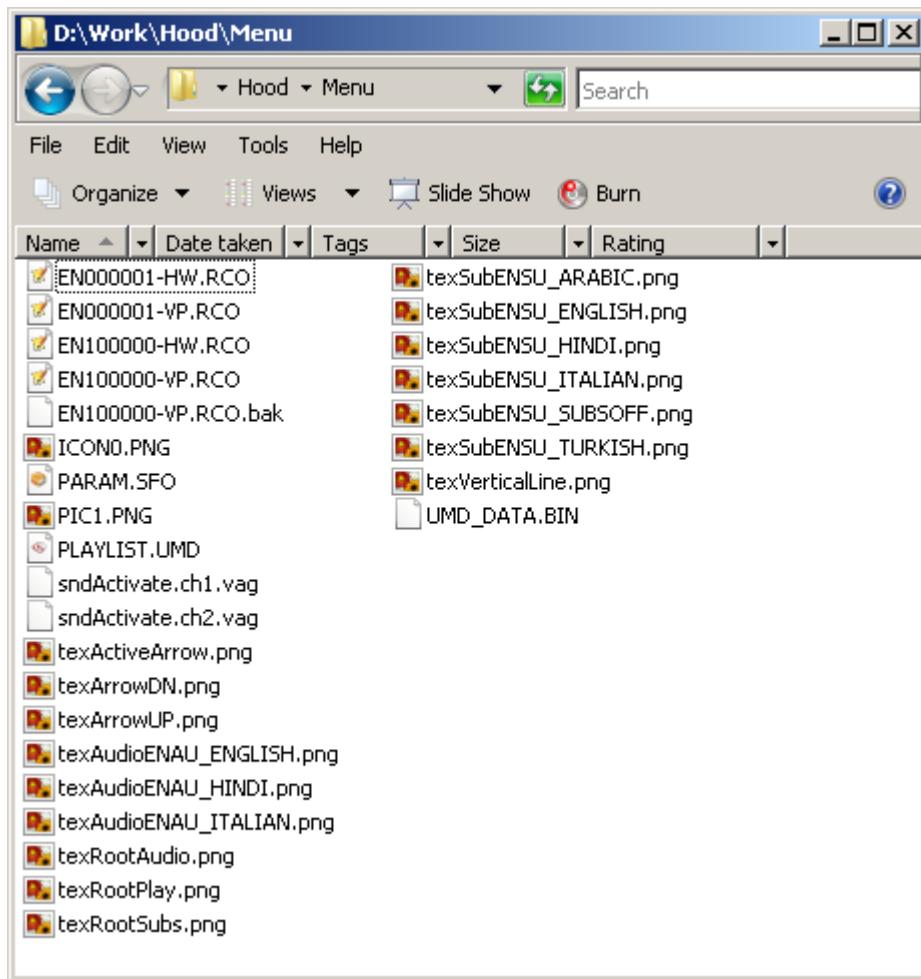
But before I go way ahead of myself, let us first have a look at how to extract the images.

There are two ways.



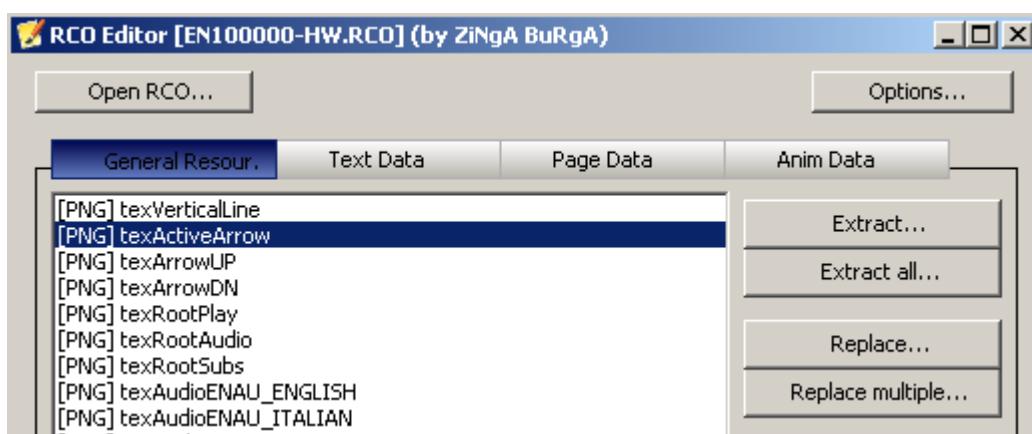
1. Select the single image that you want to extract and click the **Extract...** button.
2. Click the **Extract all...** button to extract all the images at once

It will ask you where to extract them, it's easiest to save them in the same folder as where your RCO files are located. For this guide I will do an **Extract All**.

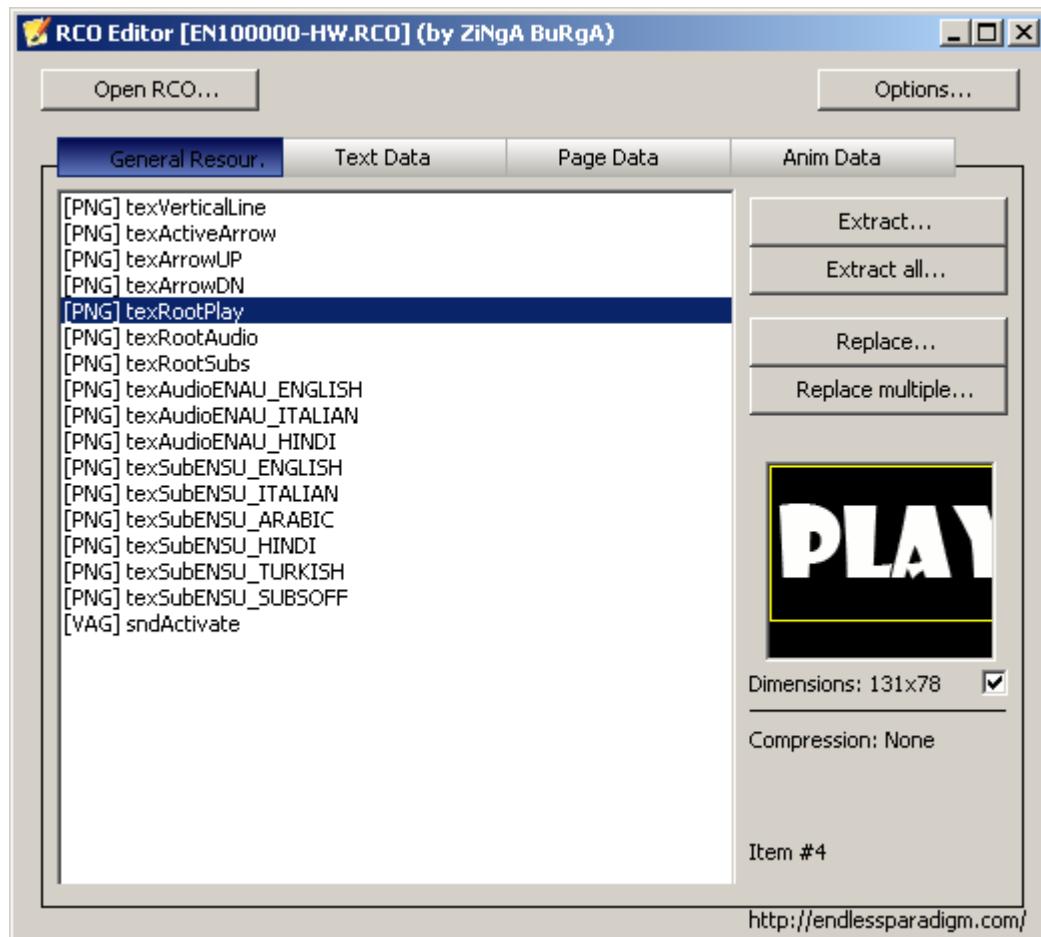


All the images are now in the folder where you saved them. You can now edit them with your favourite picture editor. Make sure however to save them as **PNG** format and do **\*not\*** change the filenames. It's better to also not change the image size.

Once edited we can put them back in the RCO file.

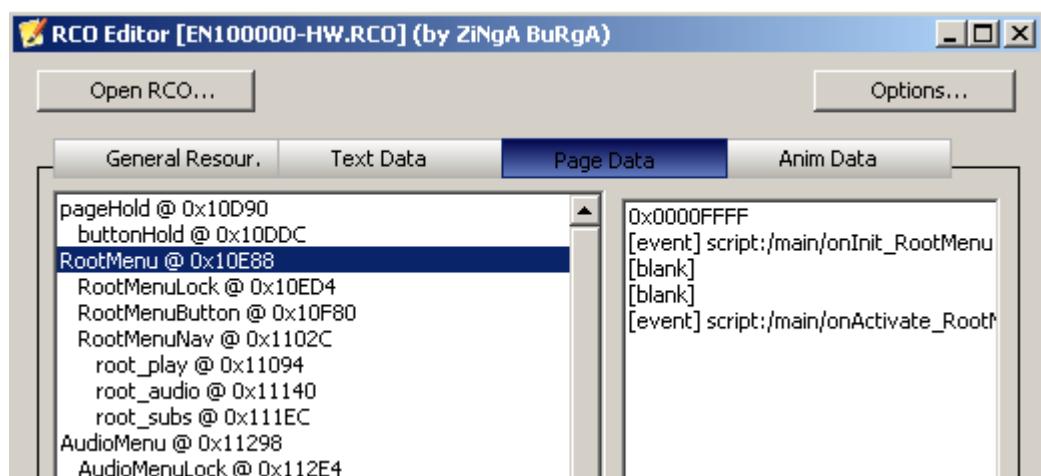


We can do so by either selecting a row clicking **Replace...** to replace only that particular image or by clicking **Replace multiple...** to replace several files at once. Once replaced you can immediately see the result if you click any of the rows.

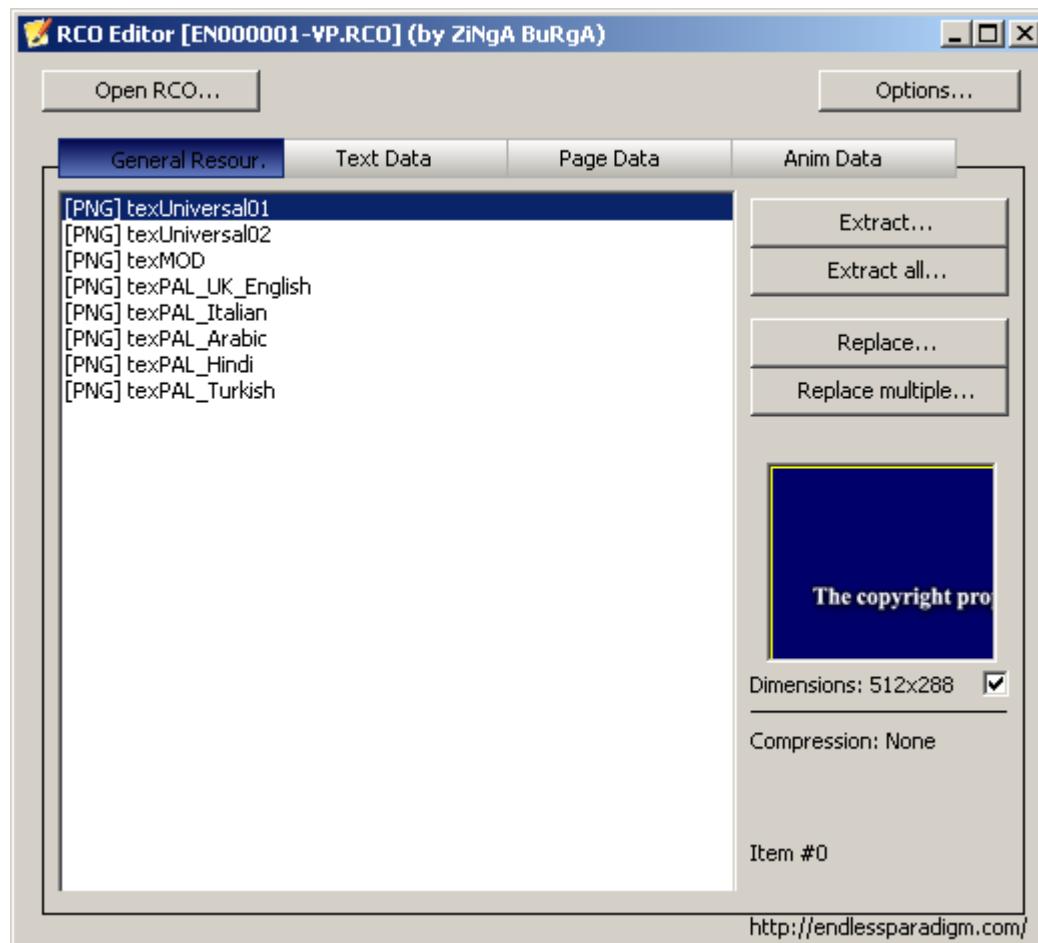


There is no need to save the RCO file as it will automatically save after every change.

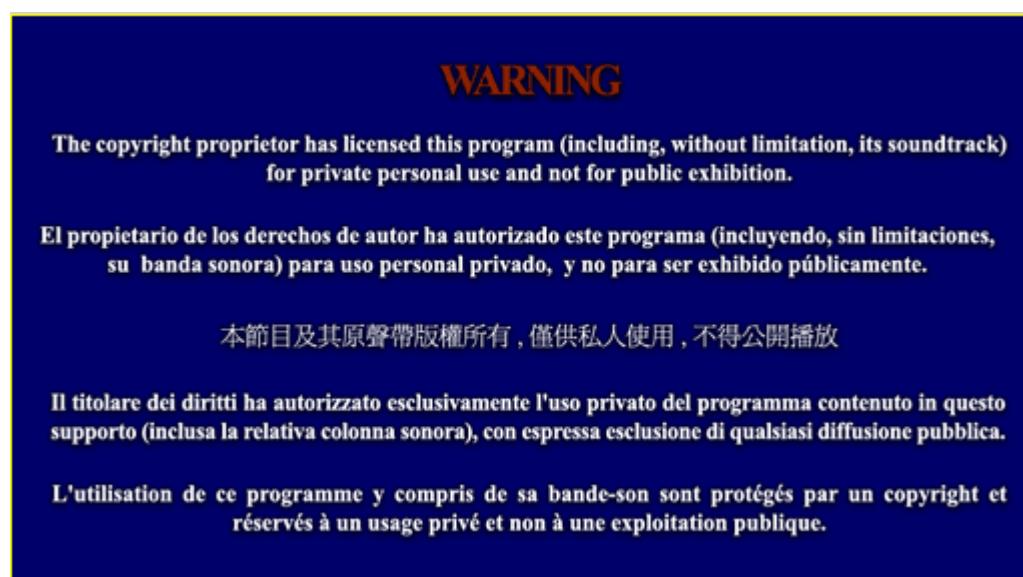
As for the other tabs... the **Text Data** tab is empty and both **Page Data** and **Anim Data** contain control codes. These can be changed but I would like to advise not to change anything here unless you know exactly what you are doing. The information in the **Data** tabs is undocumented, so if you feel like experimenting then go ahead, however before you change anything make sure you note down the original values, so you can restore in case it doesn't work anymore after your changes.



This is all I will say about EN100000.RCO; now let us have a quick look at **EN000001.RCO**.



This file contains the warning screens that are being displayed before and after the movie. You can show the complete screen again by **double-clicking** it.

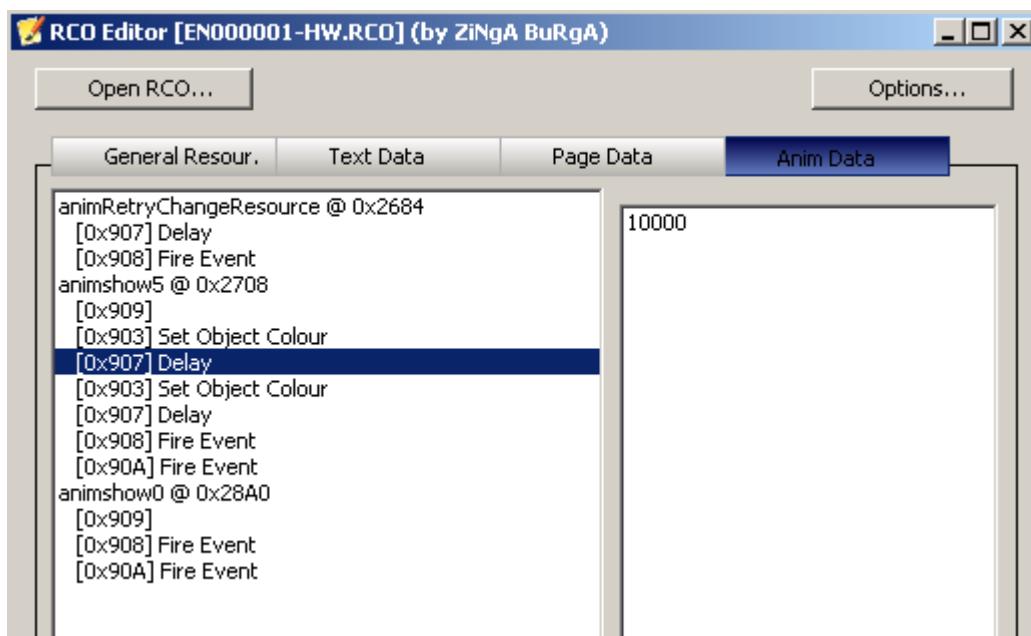


I don't know about you, but I don't want to have this in my custom, so basically I have replaced it with something like this:



I was quite naïve when I started encoding... ;) Later I removed these screens completely as they bothered me. So now I skip straight to the movie.

**Note**, while you cannot really remove them, you can actually make sure they don't show (longer than a fraction of a second). **Hint**: you can set this with the **Delay** value in the **Anim Data** tab.



Please note that in this example you are setting the delay for all the warning screens to the same value. They are all using the **animshow5** sub-routine to be displayed. You may disable showing a warning by using the **animshow0** sub-routine instead. Remember though that all menus are different and these sub-routines might not be present in the menu that you are using!

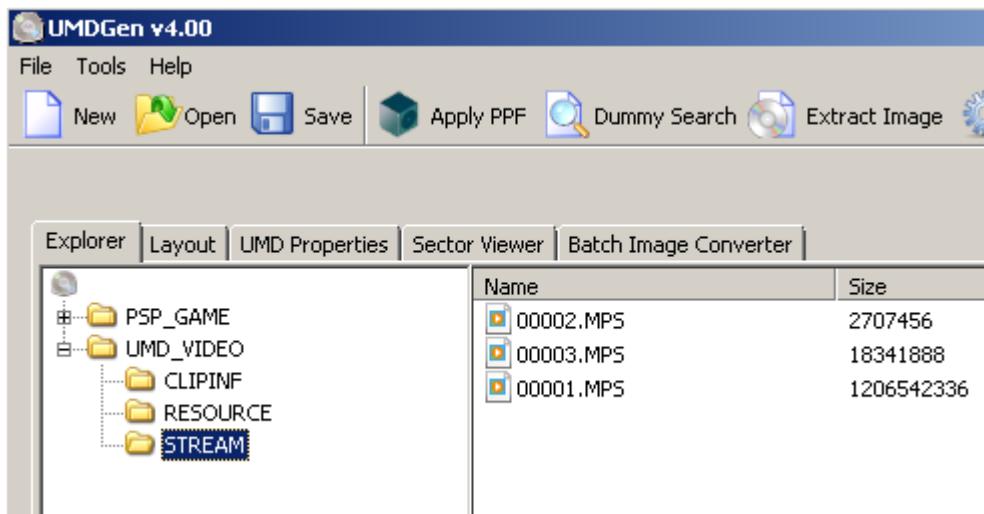
Once you are done editing the RCO files you can place them back in the ISO file with UMDGen. Replace the existing files.

In the second part of this chapter we will have a brief look at the '**movie**' part of the menu.

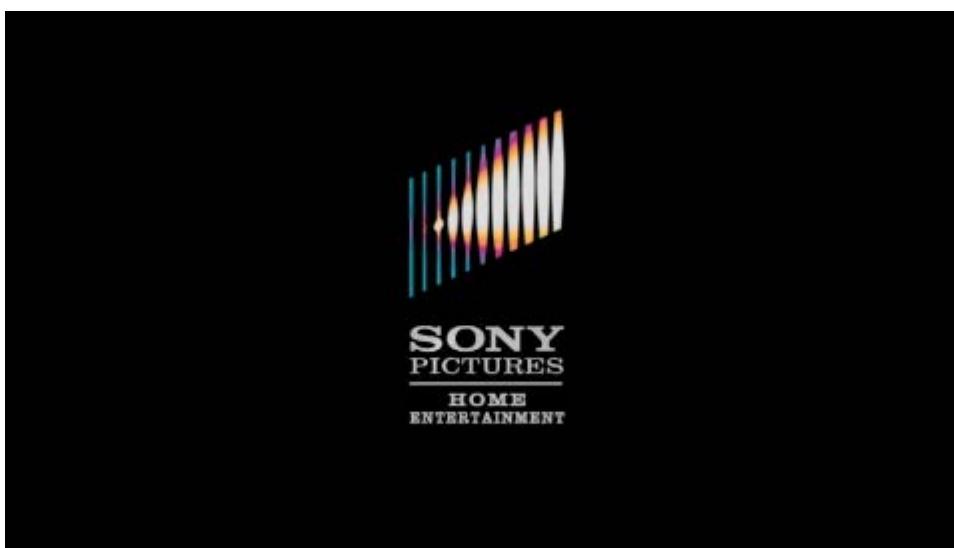
Tools needed here are:

- UMDGen
- UPL Editor
- UMD Stream Composer (and optionally UMD Stream Viewer)

Like I mentioned earlier in this chapter the top-part and/or background of the menu is a movie. It's basically an MPS file and you can find it in the **STREAM** folder of the ISO, when you open it with UMDGen.



In this case 00001.MPS is the main feature and **00003.MPS** is the menu. 00002.MPS is the distributor logo that is shown before the movie. In the case of Vantage Point it's Sony.



However Hoodwinked wasn't released by Sony so in my custom I replaced **00002.MPS** with the logo of the correct distributor.



But let's have a look at **00003.MPS** which is more interesting.

For Hoodwinked I encoded a small piece of the movie for use as a background for the menu. How to encode only part of a movie you can read in the chapter on advanced encoding techniques. After encoding you can replace the original menu (00003.MPS) with your own. Don't forget to also replace **00003.CLP** in the **CLIPINF** folder!

However just replacing the MPS and CLP files isn't enough; we also need to set the correct parameters. These are contained in the **PLAYLIST.UMD** file, which we can open with **UPL Editor**. Please see the chapter on chapter information for more information on UPL Editor.

Open the **PLAYLIST.UMD** file in UPL Editor. Just like we set the correct values for the movie we also have to set the correct values for the menu and logo. Here are the values from the Vantage Point **PLAYLIST.UMD**:

Logo	00:00:00.000 - 00:00:14.014	
Mark01	00:00:00.000	
Mark02	00:00:13.513	
Menu	00:00:00.000 - 00:00:45.011	
Mark0	00:00:00.000	
Mark1	00:00:09.609	
Mark1347	00:00:44.944	

New

Open...

Save...

You can see here that the Sony logo plays for about 14 seconds. There's a marker (or chapter) at the start (Mark01) and there's one near the end (Mark02). Having a marker near the end allows for skipping past the logo, so you don't have to wait till it finishes.

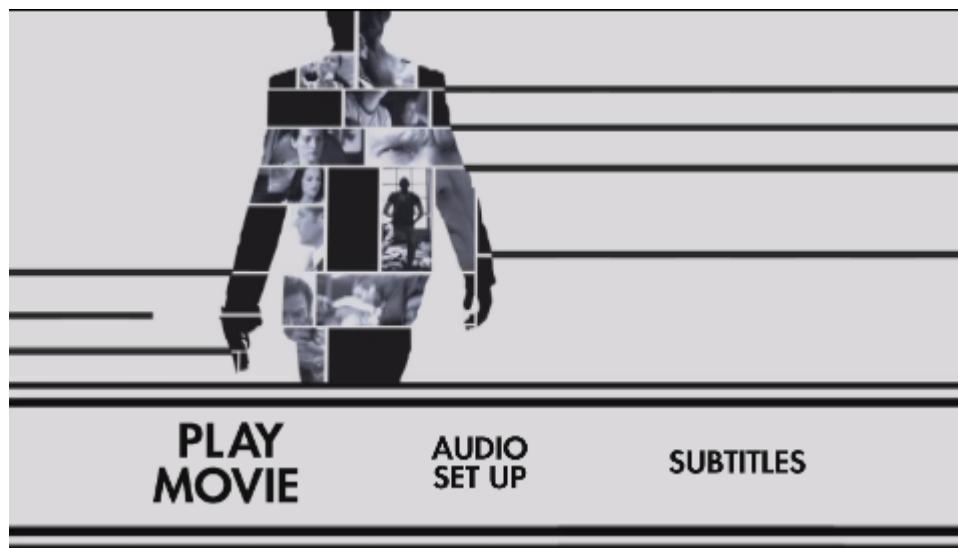
The menu for Vantage Point lasts 45 seconds, before it is replayed. Here too you see a marker at the start (Mark0) and a marker at the end (Mark1347). Special here is that there is another marker (Mark1) which is set at 9.6 seconds. What happens here is that the movie/menu file will play for 9.6 seconds before the actual menu-selections will appear onscreen! Then with the options onscreen the menu will play on for another 35 seconds, before looping. It will however not restart at Mark0, but instead at Mark1. So the 9.6 piece of movie between Mark0 and Mark1 is only shown once!

Also if during playback of the main feature the **SQUARE** button is pushed (for menu) the menu will start to play at Mark1, not at Mark0.

The first 9.6 seconds of the Vantage Point menu consists of multiple images from the movie rapidly being shown:



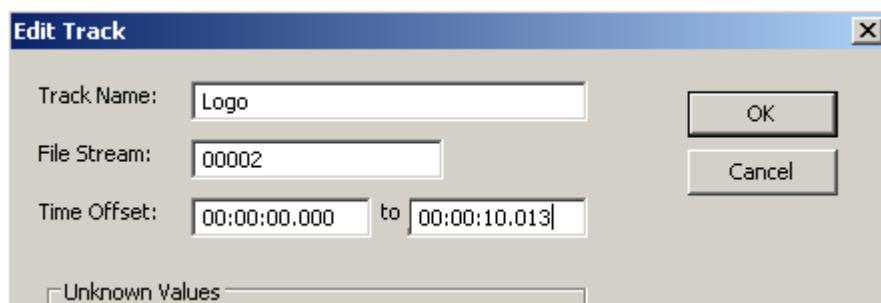
Then when Mark 1 is being reached, so after 9.6 seconds the actual menu is loaded. Now we can move the cursor and select options from the menu. However in the background we are still watching 000003.MPS being played.



Now, for Hoodwinked I have replaced both **00002.MPS (logo)** and **00003.MPS (menu)**, so I had to change the values in **PLAYLIST.UMD** as well. Here is what I changed it to:

Logo	00:00:00.000 - 00:00:10.013	<input type="button" value="New"/>
Mark01	00:00:00.000	<input type="button" value="Open..."/>
Mark02	00:00:09.513	<input type="button" value="Save..."/>
Menu	00:00:00.000 - 00:01:06.010	
Mark0	00:00:00.000	
Mark1	00:00:09.500	
Mark1347	00:00:44.944	

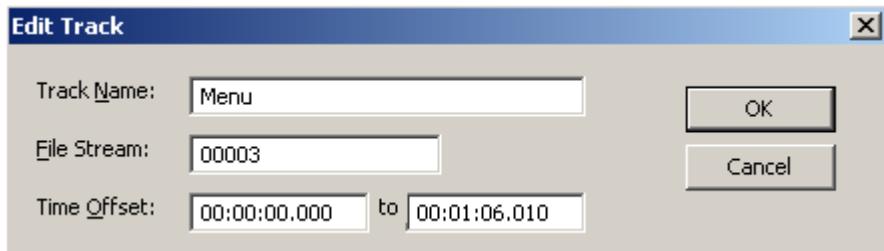
The Momentum logo only lasts about 10 seconds so I set the correct value:



I also set Mark02 to just before the end, so it is skippable.



Now at the **Menu** we see some interesting figures. You see that my 000003.MPS file lasts about 1 minute and 6 seconds, so I set this value.



You also see that I set Mark1 to about 9.5 seconds.



I do the same here as Vantage Point does. I show a brief piece of the menu before the options appear. In my menu a book opens on a map and then the map is zoomed in on until you see Red on a bike. The start of a song is playing and Mark1 is being reached exactly at the moment that Red starts singing.



So we basically hear the song being looped all the time but the book opening is only displayed once.

Now the most interesting thing is the third marker Mark1347, you can see I set it to about 45 seconds. This is the point where the menu loops back to the beginning. So basically I'm not showing the piece between 45 seconds and 1 minute 6 seconds. Why you might ask? Well, basically because I didn't know what I was doing back then. I encoded a too big piece for the menu, and it didn't loop nicely. So I set a point where I had a reasonable loop, and that happened to be at about 45 seconds.

Once you finished editing PLAYLIST.UMD save it and copy it back into the ISO with UMDGen replacing the one that's there.

Ok, this is all I have to say about menus (for now); it should give you some hints on where to start looking if you want to build your own menus. Since most of the menus that are being used are different it's very hard to make this chapter fit 'all', so you will have to do your own experimenting. I hope however that these broad guidelines help you in your menu creation process.

It's only a start, you will have to do most work and discovery on your own. Good luck!